

March 4, 2004

Mr. Lew W. Myers  
Chief Operating Officer  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
5501 North State Route 2  
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - REQUEST  
FOR ADDITIONAL INFORMATION RE: ROOT CAUSE ANALYSIS  
(TAC NO. MC1642)

Dear Mr. Myers:

Recently, concerns were raised regarding the Davis-Besse root cause analysis which FirstEnergy Nuclear Operating Company submitted to the NRC concerning the reactor pressure vessel head degradation. To resolve the concerns, the NRC staff will need additional information. Enclosed is a request for additional information

The enclosed questions were provided to your staff on February 25, 2004, and the questions were discussed with members of your staff on that date. It is our understanding that FirstEnergy Nuclear Operating Company will respond to the questions by May 25, 2005. If our understanding is not correct, please contact me at (301) 415-3027 at the earliest opportunity.

Sincerely,

*/RA/*

Jon B. Hopkins, Sr. Project Manager, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure: Request for Additional Information

cc w/enclosure: See next page

Davis-Besse Nuclear Power Station, Unit 1

cc:

Mary E. O'Reilly  
FirstEnergy Corporation  
76 South Main St.  
Akron, OH 44308

Manager - Regulatory Affairs  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
5501 North State - Route 2  
Oak Harbor, OH 43449-9760

Director, Ohio Department of Commerce  
Division of Industrial Compliance  
Bureau of Operations & Maintenance  
6606 Tussing Road  
P.O. Box 4009  
Reynoldsburg, OH 43068-9009

Regional Administrator  
U.S. Nuclear Regulatory Commission  
801 Warrenville Road  
Lisle, IL 60523-4351

Michael A. Schoppman  
Framatome ANP  
1911 N. Ft. Myer Drive  
Rosslyn, VA 22209

Resident Inspector  
U.S. Nuclear Regulatory Commission  
5503 North State Route 2  
Oak Harbor, OH 43449-9760

Randel J. Fast, Plant Manager  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
5501 North State - Route 2  
Oak Harbor, OH 43449-9760

Dennis Clum  
Radiological Assistance Section Supervisor  
Bureau of Radiation Protection  
Ohio Department of Health  
P.O. Box 118  
Columbus, OH 43266-0118

Carol O'Claire, Chief, Radiological Branch  
Ohio Emergency Management Agency  
2855 West Dublin Granville Road  
Columbus, OH 43235-2206

Zack A. Clayton  
DERR  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, OH 43266-0149

State of Ohio  
Public Utilities Commission  
180 East Broad Street  
Columbus, OH 43266-0573

Attorney General  
Department of Attorney General  
30 East Broad Street  
Columbus, OH 43216

President, Board of County  
Commissioners of Ottawa County  
Port Clinton, OH 43252

President, Board of County  
Commissioners of Lucas County  
One Government Center, Suite 800  
Toledo, OH 43604-6506

David Lochbaum, Nuclear Safety Engineer  
Union of Concerned Scientists  
1707 H Street NW, Suite 600  
Washington, DC 20006

The Honorable Dennis J. Kucinich  
United States House of Representatives  
Washington, D.C. 20515

The Honorable Dennis J. Kucinich, Member  
United States House of Representatives  
14400 Detroit Avenue  
Lakewood, OH 44107

Mr. James P. Riccio  
Nuclear Policy Analyst  
Greenpeace  
702 H. Street, NW, Suite 300  
Washington, DC 20001

Paul Gunter  
Director Nuclear Watchdog Project  
Nuclear Information & Resource Service  
1424 16th Street NW Suite 401  
Washington, DC 20009

March 4, 2004

Mr. Lew W. Myers  
Chief Operating Officer  
FirstEnergy Nuclear Operating Company  
Davis-Besse Nuclear Power Station  
5501 North State Route 2  
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - REQUEST FOR  
ADDITIONAL INFORMATION RE: ROOT CAUSE ANALYSIS  
(TAC NO. MC1642)

Dear Mr. Myers:

Recently, concerns were raised regarding the Davis-Besse root cause analysis which FirstEnergy Nuclear Operating Company submitted to the NRC concerning the reactor pressure vessel head degradation. To resolve the concerns, the NRC staff will need additional information. Enclosed is a request for additional information

The enclosed questions were provided to your staff on February 25, 2004, and the questions were discussed with members of your staff on that date. It is our understanding that FirstEnergy Nuclear Operating Company will respond to the questions by May 25, 2005. If our understanding is not correct, please contact me at (301) 415-3027 at the earliest opportunity.

Sincerely,

**/RA/**

Jon B. Hopkins, Sr. Project Manager, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure: Request for Additional Information

cc w/enclosure: See next page

**DISTRIBUTION:**

PUBLIC	OGC
PDIII-2 r/f	ACRS
AMendiola	CLipa, RIII
THarris	SReynolds, RIII
JHopkins	

**ADAMS Accession Number: ML040640499**

OFFICE	PM:PDIII-2	LA:PDIII-2	SC:PDIII-2
NAME	JHopkins	THarris	AMendiola
DATE	03/04/04	03/04/04	03/04/04

**OFFICIAL RECORD COPY**

REQUEST FOR ADDITIONAL INFORMATION

DAVIS-BESSE NUCLEAR POWER STATION

ROOT CAUSE ANALYSIS

TAC NO. MC1642

1. The purpose of the vent line that runs from nozzle14 to the steam generator number 2 upper primary hand hole is to vent non-condensable gases from the Davis Besse reactor pressure vessel (RPV) head during a loss of coolant accident. The head vent configuration at Davis Besse is unique from other Babcock and Wilcox (B&W) designs in that reactor coolant flows continuously through it during power operations. Given the proximity of the cracked nozzles in the old RPV head to the vent line nozzle, a phenomenon may exist wherein the continuous flow through the vent line impacts the potential for cracking of nearby nozzles. This same phenomenon, if real, could impact the cracking assumptions for the new RPV head.

Confirm whether or not you considered this potential phenomenon in the April 2002 root cause analysis that was performed as a result of the degradation of the old RPV head. If an evaluation was performed, provide the results of the technical analysis that would demonstrate that the phenomenon either did or did not impact cracking in adjacent nozzles. If this potential phenomenon was not considered, provide the technical basis for discounting it. If it was not discounted, but it was never considered, provide a technical basis for why it will or will not play a role in the operation of the new RPV head. If your analysis results show that there is a potential impact on the new RPV head penetrations, discuss the actions that would be taken to ensure the integrity of the head penetrations. Consider whether an update to your root cause analysis report is needed.

2. You used 605°F for the time-at-temperature calculations for the old RPV head. This value is apparently an average value of hot leg temperatures. Use of this temperature, given that you have hot leg resistance temperature detectors (RTDs) with higher temperature values, does not appear to result in a conservative effective degradation year (EDY) calculation.
  - A. Inform the staff as to which temperature value you will use in determining the EDY of your new RPV head, i.e., the average of hot leg temperatures or the highest hot leg temperature. If you do not plan to use the highest hot leg temperature, then respond to items B and C below.
  - B. Provide an explanation for the differences in temperature readings for the RTDs used in determining the average value used in the EDY calculation.
  - C. Provide a technical basis for not using the highest hot leg temperature measurement as input to the EDY calculation.

ENCLOSURE